

II. Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claim 11 has been allowed.

Claims 7, 11, and 16-50 are pending herein.

Claims 1-6, 8-10, and 12-15 have been canceled without prejudice or disclaimer.

Claim 7 has been amended.

Claims 11 and 16-46 have been previously presented.

Claims 47-50 have been added.

1-6 (canceled)

7. (currently amended) A method for recycling a rail, comprising:
providing a rail wherein the rail comprises a lower portion, an upper portion, and a web portion linking the lower portion and the upper portion;
heating the rail;
slitting the rail longitudinally to separate the rail into a first piece and a second piece wherein the rail is slit across a hole formed in the web portion; and
deforming the first and second pieces of the rail.

8-10 (canceled)

11. (previously presented) A method for recycling a rail, comprising:
providing a rail;
heating the rail;
slitting the rail to separate the rail into a first piece and a second piece wherein the first piece is a flange and the second piece is a head; and
deforming the flange and the head;
wherein slitting the rail and deforming the flange and the head, comprises:
passing the rail through a first reduction pass;

passing the rail from the first reduction pass to a first delivery guiding system;
separating the rail into the flange and the head in the first delivery guiding system;
passing the flange and the head from the first delivery guiding system to a first entry guiding system;
passing the flange and the head from the first entry guiding system to a pair of pinch rolls;
passing the flange and the head from the pinch rolls to a second delivery guiding system;
passing the flange and the head from the second delivery guiding system to a conveyor line;
passing the flange into a first flange entry guiding system and passing the head into a first head entry guiding system;
passing the flange from the first flange entry guiding system into a second reduction pass;
passing the flange from the second reduction pass to a first flange delivery guiding system;
passing the head from the first head entry guiding system to the second reduction pass;
passing the head from the second reduction pass to a first head delivery guiding system;
passing the head from the first head delivery guiding system to a second head entry guiding system;
passing the head from the second head entry guiding system to a third reduction pass;
passing the flange from the first flange delivery guiding system to a second flange entry guiding system;
passing the head from the third reduction pass to a second head delivery guiding system;
passing the flange from the second flange entry guiding system to the third reduction pass;

passing the flange from the third reduction pass to a second flange delivery guiding system;

passing the head from the second head delivery guiding system to a third head entry guiding system;

passing the head from the third head entry guiding system to a fourth reduction pass;

passing the flange from the second flange delivery guiding system to a third flange entry guiding system;

passing the head from the fourth reduction pass to a third head delivery guiding system;

passing the flange from the third flange entry guiding system to the fourth reduction pass; and

passing the flange from the fourth reduction pass to a third flange delivery guiding system.

12-15 (canceled)

16. (previously presented) A method for reducing structural defects in a recycled rail, comprising:

providing a rail having a hole formed therein;

slitting the rail across the hole to separate the rail into a first piece and a second piece, whereby slitting the rail across the hole defines a partial hole in each of the first and second pieces; and

deforming the first and second pieces of the rail in at least one reduction pass, whereby deformation of the first and second pieces elongates the partial holes of the first and second pieces.

17. (original) The method of claim 16 wherein slitting the rail across the hole reduces scrap associated with deforming the first and second pieces of the rail.

18. (previously presented) A method for recycling a rail, the method comprising providing the rail, slitting the rail generally in half to separate the rail generally into a first half and a second half, and deforming the first and second halves.
19. (previously presented) The method of claim 18 wherein the steps of slitting and deforming are accomplished in a single pass line.
20. (previously presented) The method of claim 18 wherein the first and second halves of the rail are substantially seam-free after the step of deforming.
21. (previously presented) The method of claim 18 wherein the rail includes a void therein and wherein the rail is slit across the void.
22. (previously presented) The method of claim 21 wherein the rail comprises a lower portion, an upper portion and a web portion linking the lower portion and the upper portion; and wherein the void is in the web portion.
23. (previously presented) The method of claim 21 wherein the step of slitting creates a notch in each of the first and second halves.
24. (previously presented) The method of claim 23 wherein the creation of the respective notches in the first and second halves generally reduces the probability of forming structurally deficient seams in the first and second halves.
25. (previously presented) The method of claim 23 wherein the void is in the form of a hole and wherein each of the respective notches in the first and second halves is in the form of a partial hole.
26. (previously presented) The method of claim 18 wherein the rail comprises a lower portion, an upper portion and a web portion linking the lower portion and the upper portion; and

wherein the rail is slit across the web portion at a location generally midway between the upper and lower portions.

27. (previously presented) A method for recycling a rail, the method comprising providing the rail, slitting the rail to separate the rail into only two pieces and deforming the two pieces.

28. (previously presented) The method of claim 27 wherein the steps of slitting and deforming are accomplished in a single pass line.

29. (previously presented) The method of claim 27 wherein the two pieces are substantially seam-free after the step of deforming.

30. (previously presented) The method of claim 27 wherein the rail includes a void therein and wherein the rail is slit across the void.

31. (previously presented) The method of claim 30 wherein the rail comprises a lower portion, an upper portion and a web portion linking the lower portion and the upper portion; and wherein the void is formed in the web portion.

32. (previously presented) The method of claim 30 wherein the step of slitting creates a partial opening in each of the two pieces.

33. (previously presented) The method of claim 32 wherein the creation of the respective partial openings in the two pieces generally reduces the probability of forming structurally deficient seams in the two pieces.

34. (previously presented) The method of claim 32 wherein the void is in the form of a hole and wherein each of the respective partial openings in the two pieces is in the form of a partial hole.

35. (previously presented) The method of claim 27 wherein the rail comprises a lower portion, an upper portion and a web portion linking the lower portion and the upper portion; and wherein the rail is slit across the web portion at a location generally midway between the upper and lower portions.
36. (previously presented) A method for recycling a rail comprising at least one void extending generally therethrough, the method comprising providing the rail, slitting the rail across the at least one void to separate the rail into first and second pieces and deforming the first and second pieces.
37. (previously presented) The method of claim 36 wherein the step of slitting creates a notch in each of the first and second pieces.
38. (previously presented) The method of claim 37 wherein the creation of the respective notches in the first and second pieces generally reduces the probability of forming structurally deficient seams in the first and second pieces.
39. (previously presented) The method of claim 37 wherein the step of deforming the first and second pieces elongates the respective notches in the first and second pieces.
40. (previously presented) The method of claim 36 wherein the step of slitting the rail across the at least one void reduces scrap associated with deforming the first and second pieces of the rail.
41. (previously presented) The method of claim 36 wherein the step of slitting the rail across the at least one void increases the amount of the rail that can be recycled.
42. (previously presented) The method of claim 37 wherein the step of deforming the first and second pieces substantially eliminates the respective notches in the first and second pieces.

43. (previously presented) The method of claim 37 wherein the at least one void is in the form of a hole and wherein each of the respective notches in the first and second pieces is in the form of a partial hole.
44. (previously presented) The method of claim 36 wherein the at least one void is formed in a web portion of the rail.
45. (previously presented) The method of claim 36 wherein only one mill pass line is required to recycle the rail.
46. (previously presented) The method of claim 36 wherein the rail is separated into only the first and second pieces.
47. (new) A method for recycling a rail, comprising:
providing a rail wherein the rail comprises a flange, a head, and a web portion linking the flange and the head; and
slitting the rail longitudinally to separate the rail into a first piece that includes the flange and generally half of the web portion and a second piece that includes the head and the generally other half of the web portion.
48. (new) The method of claim 47 wherein the rail includes a void extending laterally therethrough and wherein the rail is slit across the void.
49. (new) The method of claim 47 wherein only one mill pass line is used to recycle the rail.
50. (new) The method of claim 47 wherein the first and second pieces are substantially similar in shape and cross-sectional area upon completion of recycling.